Message Text

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TAGS: TGEN, PFOR, UR, US
SUBJECT: US-USSR S&T AGREEMENT: JOINT COMMISSION MEETING (01.00): SOVIET DRAFT ON CORROSION

REF: (A) MOSCOW 19297, (B) STATE 301475,

1. PER REQUEST REFTEL B, FOLLOWING IS INFORMAL TRANSLATION OF SOVIET DRAFT ON CORROSION (REF A). BEGIN TEXT:

PROPOSALS OF THE SOVIET SIDE OF THE US-USSR JOINT COMISSION ON SCIENCE AND TECHNOLOGY IN THE FIELD OF CORROSION

THE PROBLEM OF CORROSION AND ANTICORROSIVE PROTECTION OF METALS SHOULD BE INCLUDED IN THE NUMBER OF SCIENTIFIC AND TECHNOLOGICAL PROBLEMS ON WHICH FRUITFUL COOPERATION CAN BE ORGANIZED BETWEEN THE USSR AND THE USA. THIS PROBLEM IS OF GREAT IMPORTANCE FOR BOTH COUNTRIES.

SPEEDY DEVELOPMENT OF THE FUND OF METALS WITH CONSIDERABLE INCREASE OF A SHARE OF METALS USED IN AGGRESSIVE MEDIUM AND OTHER CONDITIONS FAVORABLE TO CORROSION IS CHARACTERISTIC OVER THE LAST DECADES. ALL THIS CORROSION LED TO GREAT ECONOMIC LOSSES.

ON THE OTHER HAND, IT IS KNOWN THAT TECHNOLOGICAL PROGRESS IN MANY BRANCHES OF MODERN INDUSTRY IS HAMPERED BY LACK OF RUST-RESISTANT MATERIALS OR RELIABLE METHODS OF PROTECTION, I.E. BECAUSE OF UNSETTLED QUESTIONS ON CORROSION. THIS SUBJECT ACQUIRED SPECIAL IMPORTANCE LATELY WHEN IN CONNECTIONWITH WIDER INDUSTRIAL USE OF HIGH TEMPERATURES AND PRESSURES; ESPECIALLY AGGRESSIVE MEDIA; HIGH-STRENGTH ALLOYS AND CONDITIONS UNDER
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WHICH METALS ARE USED IN EXPOSURE TO AN AGGRESSIVE MEDIUM AND

HIGH LOADS AT ONE TIME, THE SHARE OF LOSSES CAUSED BY STRUCTURAL FORMS OF CORROSION (CORROSION CRACKING, INTERGRANULAR CORROSION, PITTING CORROSIION) INCREASED CONSIDERABLY. IT BECAME APPARENT THAT SUBSTANTIAL PROGRESS, IN WHICH PRACTICALLY ALL BRANCHES OF MODERN INDUSTRY ARE INTERESTED, CAN BE ACHIEVED ONLY BY CONDUCTING THOROUGH FUNDAMENTAL INVESTIGATIONS TO DISCERN THE MECHANISM OF FINE AND OFTEN SELECTIVE INTERACTION OF SEPARATE COMPONENTS OF AN AGGRESSIVE MEDIUM WITH STRUCTURAL COMPONENTS OF ALLOYS AS WELL AS DISCLOSING THE INTERRELATION BETWEEN FINE STRUCTURE OF AN ALLOY AND ITS TENDENCY TO THIS OR THAT FORM OF STRUCTURAL CORROSION. CONDUCTING SUCH INVESTIGATION REQUIRED INVOLVEMENT OF ALMOST ALL MODERN PHYSICAL AND PHYSICOCHEMICAL METHODS OF INVESTIGATION WHICH RAISED CORROSION SCIENCE TO THE LEVEL OF LEADING FIELDS OF KNOWLEDGE.

FOR THE RECENT PAST, SCIENTIFIC SCHOOLS IN THE FIELD OF CORROSION WERE FORMED IN THE USSR AND THE USA, COUNTRIES WHICH DIFFER IN APPROACHES TO SOLUTIONS OF A MAJORITY OF THE ABOVE TASKS. AND IT IS DOUBTLESS THAT THE EXCHANGE OF THE OBTAINED RESULTS, IDEAS AND EXPERIENCE WILL BE EQUALLY USEFUL FOR SOLUTION OF APPLIED TASKS IN BOTH COUNTRIES. CONCRETE THEMES OF SUCH COOPERATION COULD BE AS FOLLOWS:

1. GENERAL THEORY OF CORROSION AND METALS PASSIVITY, PROPERTIES AND STRUCTURE OF PASSIVATING LAYERS.

2. MECHANISMS OF SPECIFIC FORMS OF CORROSION (STRUCTURAL AND LOCAL CORROSION, INCREASE IN BRITTLENESS, STRESS EMBRITTLEMENT, ETC.) AND METALLURGICAL AND ELECTOCHEMICAL PRINCIPLES OF INCREASING THE INTRINSIC RESISTANCE OF METAL MATERIALS TO SUCH FAILURE.

3. FEATURES OF THE MECHANISM OF CORROSION AND ANTICORROSIVE PROTECTION IN ORGANIC AND AQUEO-ORGANIC MEDIA.

4. THEORETICAL PRINCIPLES OF ELECTOCHEMICAL AND INHIBITOR PROTECTION FROM GENERAL AND SPECIFIC CORROSIVE FAILURES.

END TEXT.

BEGIN COMMENT: TWO OF THE EMBASSY'S LOCAL-HIRE TRANSLATORS
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WORKED ON THIS DOCUMENT, WHICH THEY SAID PRODUCED NUMEROUS PROBLEMS OF UNDERSTANDING IN RUSSIAN. THEY TURNED FOR ASSISTANCE TO SOVIET METALLURGIST, WHO ALSO REPORTED DIFFICULTIES WITH SOME PASSAGES. END COMMENT. SEPTEL WILL FOLLOW ON PHYSICS, OTHER ITEMS.
MATLOCK

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